VME Intensity Monitor - Feature #9394

Milestone # 9388 (New): 2015 Shutdown

Injection Summation Devices

07/07/2015 03:16 PM - Roger Tokarek

Status:	Closed	**Start date:**	07/07/2015
Priority:	Normal	**Due date:**	
Assignee:	John Diamond	**% Done:**	100%
Category:		**Estimated time:**	8.00 hours
Target version:		**Spent time:**	18.50 hours

Description

Port injection summation device support from VMETOR.

History

#1 - 09/23/2015 10:19 PM - John Diamond

- Status changed from New to Assigned

- % Done changed from 0 to 40

- Estimated time set to 8.00 h

Began implementing SumMgr. Implemented vmeintSumCreate() command.

#2 - 09/24/2015 02:28 PM - John Diamond

- % Done changed from 40 to 70

Finished implementation of the SumMgr class, proceeding to test before implementing an ACNET interface.
Added configuration for the recycler injection sum to mi14torstartup for testing.

#3 - 09/24/2015 05:05 PM - John Diamond

- % Done changed from 70 to 90

Was not detecting TCLK $e4 events in the PMCUCDTimingSystem interrupt handler. Fixed this and deployed a new version of the Timing library. Will continue with testing sums...

#4 - 09/24/2015 09:41 PM - John Diamond

Noticed that for my test sum, with arm $e3, disarm $e6 and trigger $e4 that I am not seeing $e3 events after the BBM sum is activate. The BBM sum triggers on the $be, which comes just microseconds after the $e3. It may be possible that the PMC-UCD can't guarantee the interrupt will be delivered before the event register is overwritten by the $be. It also appears that the $be frequency increases when waiting on the $e3 event which implies that the $e3 interrupts are being interpreted as $be's. Will need to discuss this with Charlie. In the meantime I will arm/trigger on different events.

#5 - 09/25/2015 12:12 PM - John Diamond

Testing now with an arm on the $26. Added a show() method to SumMgr so we can see how the sums are being triggered. It appears that we are getting triggers but the sum does not increment.

#6 - 09/25/2015 01:22 PM - John Diamond

Filter chains were not processing as a part of filterChainRead(..). Fixed that and now the sums are incrementing on noise. I will leave this ticket open until we test with a calibration signal and clear up the PMC-UCD issue.

#7 - 09/28/2015 10:18 AM - John Diamond

Modified the PMCUCDTimingSystem class to use add_aux_interrupt instead of add_bim_interrupt and this seems to have cleared up the erroneous event interrupts. Timing library comitted to CVS and a production build was made. Updated the mi14tor startup script to use production level libtiming.

#8 - 11/01/2015 09:40 AM - John Diamond

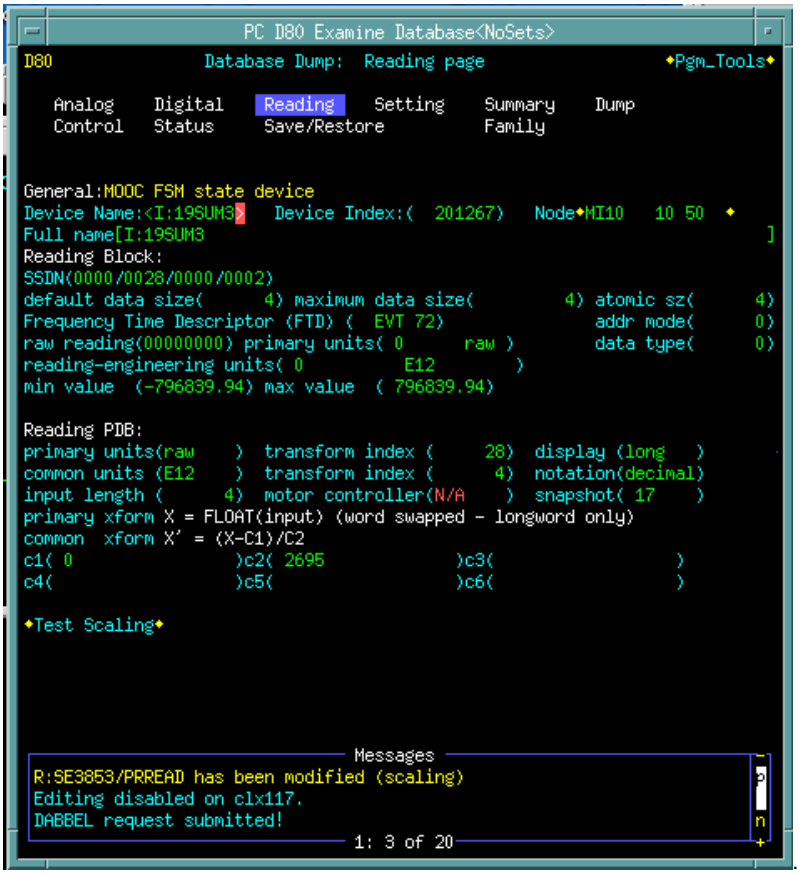
- File i19sum3.png added

- Status changed from Assigned to Closed

- % Done changed from 90 to 100

Kyle Hazelwood noted the I:19SUM3 was not reporting data. This device was front ended by the MI10 node and received the sum from the old toroid system via a DAC. Configured an injection sum to arm on $23, disarm on $26 and trigger on $1f in m10startup. A ClassACNet accessor had not been implemented for reading injection sums so I whipped that up really quick. Created a test device, Z:19SUM3 that was verified to be working by Kyle. Modified I:19SUM3 to point at m10tor.

D80 screenscap for the old device is attached:



Files

i19sum3.png	19.8 KB	11/01/2015	John Diamond